Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

CII Carbon, LLC
Chalmette Coke Plant
Chalmette, St. Bernard Parish, Louisiana
Agency Interest Number: 2557
Activity Number: PER20020001
Draft Permit 2500-00006-V1

I. APPLICANT:

Company:
2627 Chestnut Ridge Drive, Suite 200
Kingwood, TX 77339

Facility:
700 Coke Plant Road
Chalmette, LA 70043
Approximate UTM coordinates are 792.000 kilometers East and 3315.200 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

The Chalmette Coke Calcining facility was built in the 1960's by Kaiser Aluminum and Chemical Corporation. The facility was first permitted on June 24, 1982, under Permit No. 1750. Permit No. 1864T was issued on June 17, 1983, to address emissions from the heat recovery boiler stack on the calciner pyroscrubber, and it was modified May 29, 1985, to reflect a higher production rate. The facility was purchased by LaRoche Chemical Corporation in July 1988, and sold to Calciner Industries on December 20, 1988. Calciner Industries, Inc. was granted Permit Nos. 2500-00006-01 on January 14, 1992, 2500-00006-02 on October 19, 1993, and 2500-00006-03 on April 9, 1996. Calciner Industries, Inc. was renamed CII Carbon, LLC (CII). The name change notification was submitted October 1, 1996. Currently the facility operates under a Part 70 operating permit issued August 7, 1997.

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

A permit application and Emission Inventory Questionnaire was submitted by CII Carbon, LLC on February 5, 2002 requesting a Part 70 operating permit renewal as well as a minor modification. Additional information dated April 11, 2002, March 22, 2004, May 21, 2004, October 6, 2006, and October 5, 2007 was also received.

CII operates a coke calcining facility in Chalmette, St. Bernard Parish, Louisiana. In this process green petroleum coke is fed into a countercurrent natural gas fired rotary kiln, where residual

moisture and volatile compounds are removed. The product, calcined coke, is discharged from the kiln into a rotary cooler where it is quenched by water and treated with a chemical wetting agent for dust control. The product is then stored and then loaded into ships or barges for distribution to commercial markets.

Project description

This modification will include a reconciliation of emission sources previously omitted, as well as a limit on hours for operation of the pyroscrubber stack. Also, emission sources will be added which include:

1) The addition of three small cooling towers, Emission Point Numbers (EPNs) 1A-02, 1B-02 and 1C-02.
2) The addition of supplemental firing in the Pyroscrubber, EPN 199.
3) The addition of four auxiliary engines, EPNs 2A-02, 2B-02, 2C-02 and 2D-02.
4) The addition of the lime storage and handling system, EPN 3A-02.
5) The addition of coffee chaff burning as fuel in the pyroscrubber, EPN 199.

Lastly, the facility is being required to install and utilize a SO_2 CEMS on the stack from the Waste Heat Boiler/Baghouse (EQT 003).

Permitted Air Emissions

Estimated changes in permitted emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	92.90	106.54	+ 13.64
SO_2	7007.90	7008.01	+ 0.11
NO_X	319.00	319.72	+ 0.72
CO	< 0.01	< 0.01	-
VOC	0.15	1.35	+ 1.2
SO_3	19.80	19.80	-

Prevention of Significant Deterioration Applicability

No major modifications are being made to the facility and the emission changes are due to emission updates and the addition of emission sources with emissions below the threshold significant level; therefore, PSD does not apply and netting analysis is not required.

MACT requirements

N/A

Air Modeling Analysis

Dispersion Models Used: ISCST3 (screen)

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Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Toxic Air Pollutant Ambient Air Quality Standard or (National Ambient Air Quality Standard {NAAQS})
SO_2	Annual Average	7.2 $\mu g/m^3$	(80) $\mu g/m^3$
	24 hr Average	77.0 $\mu g/m^3$	(365) $\mu g/m^3$
	3 hr Average	282.0 $\mu g/m^3$	(1300) $\mu g/m^3$

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

IV. Permit Shields

None were requested

V. Periodic Monitoring

Continuous Monitoring (CEMS)
LDEQ will require the facility to install and utilize a SO_2 CEMS on the stack from the Waste Heat Boiler/Baghouse, (EQT 003) in accordance with §1511.A to demonstrate compliance with the limitation under §1503.C.

Continuous Parameter Monitoring (CPMS)
No equipment is currently required by regulations to perform continuous parameter monitoring.

Continuous Monitoring (CAM)
The Waste Heat Boiler/Baghouse stack and the Pyroscrubber stack were determined to be subject to CAM, (40 CFR 64) for PM_{10} emissions. Emissions are routed to the Pyroscrubber stack when maintenance or other conditions preclude routing through the Waste Heat Boiler/Baghouse stack. The actual pyroscrubber is similar to a thermal oxidizer where the coke fines in the kiln flue gases are combusted at high temperatures in the presence of excess air. Based upon performance testing, temperature of the pyroscrubber was selected as the parameter to monitor for particulate (coke fines) control. The pyroscrubber operates at all times irregardless of which stack the exhaust gases are routed. When the Waste Heat Boiler/ Baghouse stack is used, an additional baghouse controls

PM_{10} emissions. Monitoring of this stack uses three separate indicators. The first is daily opacity monitoring, the second is continuous differential pressure measurements across the baghouse to detect holes or tears in any of the bags, and the third is fluorescent dye inspections of the bags every six months to ensure bag integrity.

Periodic Monitoring (Including periodic Stack Testing)
No other equipment is currently required by regulations to perform periodic monitoring.

VI. Applicability and Exemptions of Selected Subject Items		
ID No:	Requirement	Notes
	The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables IX, X and XI of the draft permit	

VII. Streamlined Requirements			
Unit or Plant Site	**Programs Being Streamlined**	**Stream Applicability**	**Overall Most Stringent Program**
N/A			

VIII. Glossary

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10}- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

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Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient
Sulfur Dioxide (SO_2) – An oxide of sulphur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

NESHAP - National Emission Standards for Hazardous Air Pollutants –Air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 through 63

Continuous Emission Monitoring System (CEMS) – The total combined equipment and systems required to continuously determine air contaminants and diluent gas concentrations and/or mass emission rate of a source effluent.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

NSPS - New Source Performance Standards – Air emission standards for specific types of facilities, as outlined in 40 CFR Part 60

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)